



# Improving College Affordability with New Higher Education Business Models

JANUARY 2019

---

*Donna M. Desrochers and Richard L. Staisloff*



# EXECUTIVE SUMMARY

**Bolstering student success in higher education is both a lofty goal and a multifaceted issue, complicated by ever-present concerns about rising tuition prices. In response, college and university leadership teams worldwide are seeking new ways to reduce costs and improve efficiencies while delivering high-quality education to an expanding and ever more diverse student body.<sup>1</sup>**

Affordability has become an acute issue for many students, even at public colleges and universities. Increased demand for college, the rising costs of providing a college education, and a decline in state funding have all played a role in raising tuition prices and reducing affordability. Changing student demographics suggest affordability concerns will rise in the coming decade as colleges enroll more first-generation, minority students requiring additional financial support that extends beyond tuition aid alone.<sup>2</sup>

These changes in the higher education landscape should compel all institutions—especially publicly funded ones—to rethink their current business model. Instead, most colleges have increasingly relied upon student tuition dollars to run “business-as-usual” operations.

Many college leaders, particularly those at public master’s and bachelor’s degree-granting institutions, are concerned that their current business



model is unsustainable. Only 53% of these public college presidents are confident that their institution will be financially stable over the next 10 years, and only 25% of all college and university presidents think these broadly accessible public colleges exhibit sustainable business models.<sup>3</sup>

» **53%**

Proportion of public college presidents confident that their institution will be financially stable over the next 10 years

<sup>1</sup> This report was supported with funding from Lumina Foundation. The views expressed in this publication are those of the authors and do not necessarily represent those of Lumina Foundation.

<sup>2</sup> Hussar, William J. and Tamara M. Bailey. 2018. *Projections of Education Statistics to 2026*. Washington, DC: U.S. Department of Education, National Center for Education Statistics (NCES 2018-019); Grawe, Nathan D. 2018. *Demographics and the Demand for Higher Education*. Baltimore, MD: Johns Hopkins University Press.

<sup>3</sup> Lederman, Doug. 2018. “Leading in Turbulent Times: A Survey of Presidents.” *Inside Higher Ed* (March 9). <https://www.insidehighered.com/news/survey/survey-college-presidents-finds-worry-about-public-attitudes-confidence-finances>

## Study Approach

This study exposes college leaders and trustees to the fundamentals of strategic finance and provides a roadmap for moving forward. We focus on public colleges and universities, with a particular emphasis on nonresearch institutions that tend to serve large populations of students (including those with higher financial need), but have fewer alternate sources of institutional revenues to tap.



## What College Leaders and Trustees Will Learn

- >> Concepts around strategic finance and ROI, and their connection to affordability.
- >> How ROI solutions can reduce education delivery costs and improve affordability.
- >> Examples of different ROI solutions.

We describe how a strategic finance approach can:



**1** Harness data and metrics to identify cost drivers and shift levers to reduce costs and/or improve efficiencies;



**2** Generate additional revenue from improvements in student performance;



**3** Use this revenue to improve affordability, sustain investment in student success, and reinvest in institutional mission.

Practical examples are used throughout to show how colleges can transition to an ROI approach for campus budgeting and investing. This includes the use of common metrics and levers to identify opportunities for efficiency improvement. Finally, we share examples of comprehensive strategies used by our three partner institutions in this Lumina-funded work—University of Central Missouri, Colorado State University, and Johnson County Community College—including lessons they learned along the way.

## A Path Forward

Colleges searching for ways to improve affordability typically look for new revenue solutions first, followed by cost-cutting measures. But in this study, we propose a third way: adopting new business models that utilize a strategic finance approach to college budgeting, investing, and decision making. Although this concept is not new, urgency has increased in recent years as enrollments have declined and tuition freezes have become politically popular. We propose a more flexible framework that builds upon models developed in recent years, but encourages institutions to follow an approach that suits their particular college and objectives.

Strategic finance encourages colleges to thoughtfully direct their resources to programs and activities that reflect their college mission, current market realities, and sustainable practices that support student success. It is a data-driven decision-making strategy that requires a better understanding of how financial and human resources are currently used, and how they can be reallocated to better serve students—in short, adopting a return on investment (ROI) perspective to spending.

Successfully implementing a strategic finance approach requires systemic change throughout the institution. Leadership at the executive and trustee level is critical so everyone understands the connection between spending, outcomes, and affordability, and driving toward a more productive higher education business model. It will also be important that leadership emphasizes the need for all faculty, staff, and administrators to understand and contribute to the success of the new model.

## Roadmap for Strategic Finance Change Management

- >> Create urgency for change.
- >> Capture key metrics that tell a story.
- >> Gain an understanding of academic portfolio and administrative services.
- >> Reallocate toward initiatives that support student success and institutional sustainability.
- >> Invest in new business models.

**Colleges transitioning to an ROI approach should begin by instituting three fundamental practices:**

1

### Develop a holistic understanding of resources

Improve awareness of resource availability and utilization, particularly around faculty and staff time.

2

### Focus on unit costs

Relative cost metrics are more useful than aggregate measures in examining productivity and efficiency, highlighting areas prime for intervention.

3

### Make the connection between student success and financial sustainability

Improving financial and nonfinancial outcomes for students also can have financial benefits for institutions

# THE CASE FOR CHANGE

Higher education business models are influenced by a college's mission, available student market, and potential financial margin. Affordability is an ever-present concern but typically is not at the forefront of day-to-day decisions on how colleges should budget their resources. However, affordability is a growing concern for students, policymakers, and the public. Responding directly to this concern will be critical for the future of higher education.

## Affordability Concerns

The meteoric rise in published tuition and fees is well established. More importantly, the "net price"—or real price students pay after accounting for student grant aid and tax benefits—continues to rise nearly as fast. The average net price increased 35% over the past decade (inflation-adjusted), to \$4,140 in 2017–18 for in-state students attending public four-year colleges on a full-time basis.<sup>4</sup>

The total cost of students' attendance is, of course, significantly higher than just tuition and fees alone. Additional costs for room and board, books and supplies, transportation, and other expenses bump the average net price up to nearly \$19,500 for in-state students at public four-year colleges.<sup>5</sup> Independent students may also face added expenses related to work or childcare and other family responsibilities.

Economically disadvantaged students typically receive enough grant aid to cover the full cost of their tuition and fee charges at many public institutions, but not daily living expenses. Although more than 70% of all first-year students receive grant aid at public four-year institutions, 48% still take out loans to finance their education. On graduation day, about 60% of students from these colleges will leave campus with student loan debt.<sup>6</sup> And for those that don't reach graduation day, the student loan

burden can be even greater if they are unable to land good paying jobs that are more easily accessible to college graduates.

Debt levels are problematic because students at all types of colleges, including lower-priced public institutions, often have difficulty repaying their loans. About 18% of students attending a public four-year college or university defaulted on a student loan within 12 years of first enrolling.<sup>7</sup> Minority and independent students have even higher default rates regardless of where they enroll.<sup>8</sup>

Colleges and universities have made efforts to address affordability concerns by providing additional student aid. Institutionally funded grant aid was the most rapidly growing source of aid during the past five years.<sup>9</sup> Public college

students now receive more aid from their institutions than from state aid programs.<sup>10</sup>

While institutional aid is beneficial for students, it comes at a price for colleges. Institutional aid reflects tuition or other sources of revenue diverted away from college operations. Although tuition discounting at public colleges is comparatively modest relative to private nonprofit institutions, it rose swiftly over the past decade. Public nonresearch four-year colleges recycled the equivalent of 15% of total tuition and fee revenue into institution-provided grant aid in 2015, totaling \$3.3 billion.<sup>11</sup> The question arises, therefore, as to the sustainability of the use of increasing levels of institutional aid to solve affordability concerns.

<sup>4</sup> Ma, Jennifer, Sandy Baum, Matea Pender, and Meredith Welch. (2017). *Trends in College Pricing 2017*. New York: The College Board. (Figures 8, 9). [https://trends.collegeboard.org/sites/default/files/2017-trends-in-college-pricing\\_1.pdf](https://trends.collegeboard.org/sites/default/files/2017-trends-in-college-pricing_1.pdf)

<sup>5</sup> Ma, et al. (2017). (Figure 1).

<sup>6</sup> The Institute for College Access & Success. *College InSight*. <http://www.college-insight.org>

<sup>7</sup> rpk GROUP analysis of U.S. Department of Education, National Center for Education Statistics, 2003-04 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:04/09), computation by NCES PowerStats.

<sup>8</sup> Miller, Ben. 2017. "New Federal Data Show a Student Loan Crisis for African American Borrowers." Washington, DC: Center for American Progress. <https://www.americanprogress.org/issues/education-postsecondary/news/2017/10/16/440711/new-federal-data-show-student-loan-crisis-african-american-borrowers/>

<sup>9</sup> Aid growth is for years 2011–12 to 2016–17. Baum, Sandy, Jennifer Ma, Matea Pender, and Meredith Welch. (2017). *Trends in Student Aid 2017*. New York: The College Board. (Figure 3). [https://trends.collegeboard.org/sites/default/files/2017-trends-student-aid\\_0.pdf](https://trends.collegeboard.org/sites/default/files/2017-trends-student-aid_0.pdf)

<sup>10</sup> Baum, et al. (2017). (Figure 13).

<sup>11</sup> rpk GROUP analysis of Delta Cost Project IPEDS Database, 1987–2015.

## Unlocking the Black Box of Higher Education Finance



It's difficult to draw a direct connection between the tuition prices that colleges charge and their cost to produce and deliver education. The subsidies public institutions receive—federal, state, and/or local appropriations—distort the relationship between revenue and spending, and permit colleges to charge prices that are lower than the full cost to educate their students<sup>12</sup> (especially compared to private nonprofit colleges).

In fact, college spending has historically increased more slowly than published prices.<sup>13</sup> Education-related spending<sup>14</sup> averaged \$14,800 and \$13,300 per student, respectively, at public master's and bachelor's degree-granting colleges in 2015–16.<sup>15</sup> College spending averaged 10% to 14% higher (after accounting for inflation) compared to five years earlier (2010–11) whereas the average sticker price tuition for all public colleges (including research universities) grew 13% during this same period and net prices grew 70%.<sup>16</sup>

What's contributing to rising costs of delivering a college education? A range of factors have been proposed, including new government mandates, governance of increasing complex institutions and their accompanying administrative/technology requirements, increased hiring of professional staff, the rising cost of personnel benefits, and a tendency for colleges to “spend all the money they can raise.”<sup>17</sup>

» 70%

College spending averaged 10% to 14% higher compared to five years earlier... during the same period net prices grew 70%

<sup>12</sup> Other sources of revenue, including grants, contracts, gifts, endowment income, and auxiliary services like bookstores, dining services, and hospitals, can also directly or indirectly support education-related activities, but many of these revenues are restricted/contracted for specific activities.

<sup>13</sup> Desrochers, Donna M. and Jane V. Wellman. 2011. *Trends in College Spending: 1999–2009*. Washington, DC: Delta Cost Project. [https://www.deltacostproject.org/sites/default/files/products/Trends2011\\_Final\\_090711.pdf](https://www.deltacostproject.org/sites/default/files/products/Trends2011_Final_090711.pdf)

<sup>14</sup> Education-related spending includes spending on instruction, student services, and a prorated share of spending on academic and institutional support; spending on sponsored research, public service, and auxiliary services is excluded.

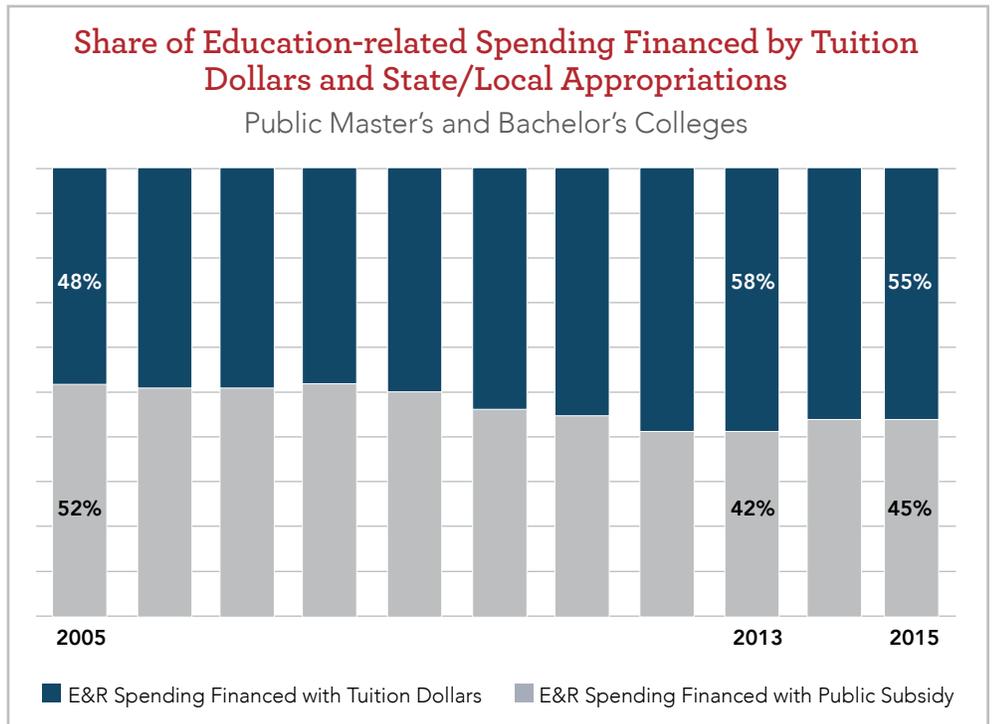
<sup>15</sup> rpk GROUP analysis of IPEDS, 2010–2016.

<sup>16</sup> Ma, et al. (2017). (Figures 8 and 9).

<sup>17</sup> Donna M. Desrochers and Rita J. Kirshstein. 2014. *Labor Intensive or Labor Expensive? Changing Staffing and Compensation Patterns in Higher Education*. Washington, DC: Delta Cost Project at American Institutes of Research Issue Brief (February); Larry L. Leslie and Gary Rhoades. 1995. “Rising Administration Costs: Seeking Explanations.” *Journal of Higher Education*, Vol. 66, No. 2, pp. 187–212; Jay P. Green, Brian Kisida, and Jonathan Mills. 2010. *Administrative Bloat at American Universities: The Real Reason for High Costs in Higher Education*. Phoenix, AZ: Goldwater Institute Policy Report No. 239; Ronald B. Archibald and David H. Feldman. 2008. “Explaining Increases in Higher Education Costs.” *Journal of Higher Education*, Vol. 73 No. 3, pp 268-295; Robert E. Martin and R. Carter Hill. 2013. *Measuring Baumol and Bowen Effects in Public Research Universities*. SSRN Working Paper Series. [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2153122](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2153122)

Looking at broad spending patterns and trends since the aftereffects of the 2008 recession—when targeted spending cuts were common—shows that colleges have reinvested across education-related activities on campus.<sup>18</sup> Noninstructional student services—which includes advising, counseling, admissions, registrar and financial aid services, and other student activities—was the fastest growing area of spending in recent years, although instructional costs accounted for most new expenses (adding more than \$750 per student over 5 years). Administration-related spending grew at the same pace as instruction, but only added about \$375 in spending per student over five years.<sup>19</sup>

Despite rising spending levels, the optics of rampant increases in college spending have occurred partially because colleges shifted more of their existing costs onto students. The state and local appropriations that help support public colleges and universities have not kept pace with rising enrollments and inflation, and cost-shifting rapidly increased for more than a decade until a recent slowdown. In 2015, student tuitions covered 55% of education-related spending at public master’s and bachelor’s colleges; a decade earlier it paid for 48% because public state and local funding covered a larger share of colleges’ costs.



Fortunately, these spending increases were accompanied by improvements in student success during the past five years. Degree productivity increased under current funding levels and existing business models. Using a comprehensive measure of total degrees and certificates produced by colleges per 100 full-time equivalent (FTE) students shows that public bachelor’s degrees produced about five more credentials per 100 FTE students in 2015–16 compared to 2010–11, and public master’s colleges produced an additional 2.5.<sup>20</sup>

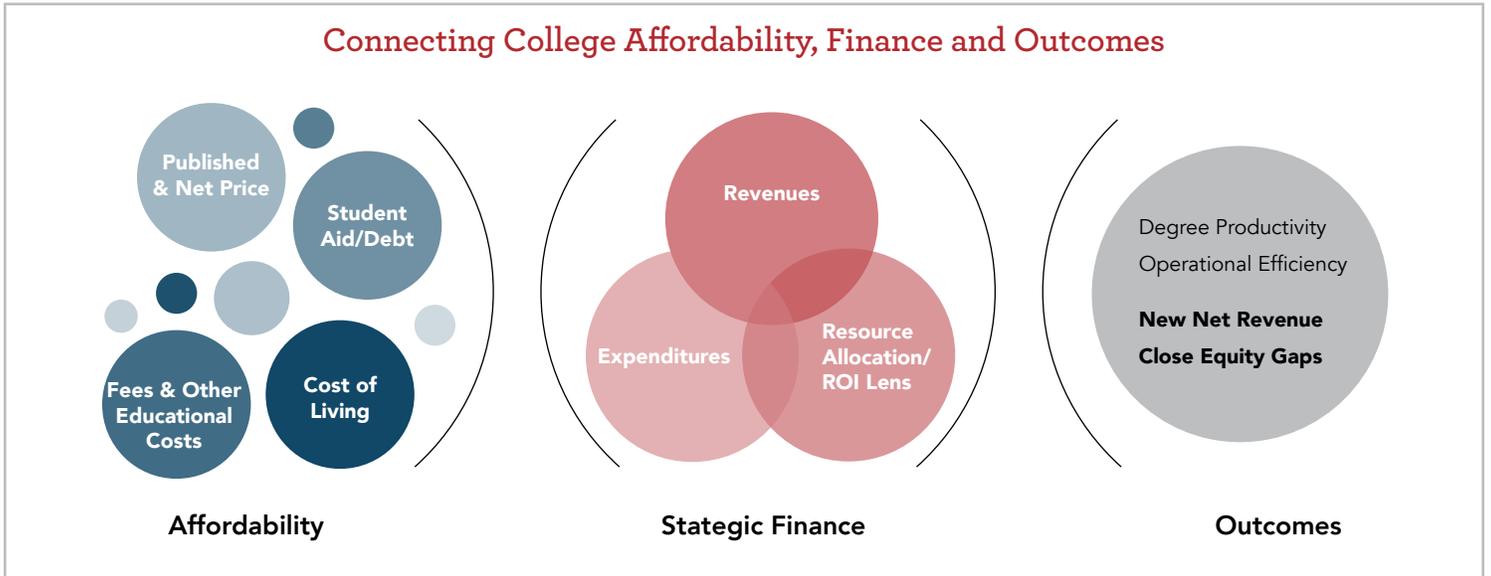
These productivity increases came with added costs, however. The average “cost per credential” produced by colleges was largely unchanged over the past five years at public master’s degree-granting colleges (\$56,290), and after an initial decline, remained steady at public bachelor’s colleges (\$50,150). Ideally, colleges would become more cost efficient as they increased the number of certificates and degrees produced, taking advantage of existing instructional processes and economics of scale.

<sup>18</sup> Desrochers, Donna M. and Steven Hurlburt. 2016. *Trends in College Spending: 2003-2013*. Washington, DC: Delta Cost Project at the American Institutions for Research. <https://www.deltacostproject.org/product-types/trends-and-data-updates>

<sup>19</sup> rpk GROUP analysis of IPEDS, 2010-2016

<sup>20</sup> Traditional measures of college graduation rates are limited to full-time, first-time students enrolling in college, which has become less reflective of the traditional college-going students over time. Completions per 100 FTE is a more comprehensive measure of productivity that includes all students enrolled in all types of programs and all credential awarded; however, it does not differentiate by quality, or the different types of degrees or certificates produced.

Reducing the cost of delivering a quality education that leads to a credential is important because it relieves pressure around raising new revenue. Ultimately, this allows colleges more latitude in addressing affordability concerns.



# TRANSITIONING TO A STRATEGIC FINANCE SOLUTION

**Business officers have generally seen their colleges’ finances improve since the 2008 recession. Despite these improvements, rising prices, discount rates, and costs of producing a college degree challenge the long-term sustainability of business models, according to 52% of business officers recently surveyed at public master’s and bachelor’s colleges.<sup>21</sup>**

More troubling is that many chief business officers (CBO) don’t seem to be doing much to increase the level of urgency around sustainability concerns. Fifteen percent of CBOs at these public colleges didn’t run periodic financial reports that included end-of-year fiscal projections.<sup>22</sup> Fewer than half shared financial reports with their governing board or finance committee. And those with the greatest concerns about their college’s financial sustainability were less likely to report that their campus constituents were aware of the financial situation.

## Business as Usual – Budgets and Beyond

Under existing business models, common approaches to addressing financial concerns center on cost-cutting or raising new non-tuition revenues—both of which have proven to be unsustainable strategies. Spending cuts are common during economic downturns but typically rebound in better economic conditions. And as we’ve seen, operating costs were increasingly shifted onto students over the past decade because new funding sources didn’t materialize to offset declines in public funding.

The entrenched budgeting processes at most colleges and universities are designed to reward the status-quo rather than explicitly consider linkages between spending and outcomes and affordability. As a result, resources are rarely reallocated to address educational priorities. Base-plus or formula-driven budgeting processes carry forward historical spending patterns with little consideration for how resources might be deployed more effectively and efficiently.

Other solutions, such as responsibility center management (RCM), offer additional flexibility by delegating budget authority to individual colleges or divisions. Although this can provide greater direct control over local revenue and spending decisions, when poorly implemented it also can lead to competing incentives across the institution that result in inefficient practices.



<sup>21</sup> Lederman, Doug. 2018. “Peril for Small Private Colleges: A Survey of Business Officers” Inside Higher Ed (July 20). <https://www.insidehighered.com/news/survey/peril-private-colleges-survey-business-officers>; Lederman, Doug and Scott Jaschik. 2018. *2018 Survey of College and University Business Officers*. Washington, DC: Inside Higher Ed and Gallup.

<sup>22</sup> Lederman and Jaschik, 2018.

Other systemic approaches to restructuring and re-tooling college operations range from college mergers to adoption of new “disruptive” educational models, such as competency-based education or nanodegrees. College mergers have increased during the current decade<sup>23</sup> but continue to impact fewer than 1% of colleges.<sup>24</sup> Demographically, there is no reason to expect mergers to rapidly increase until perhaps later into the next decade, once sharp declines in the number of college-age students are projected to begin in 2025.<sup>25</sup> In the near-term, colleges are more likely to consider consolidating programs or operations with another college or university than merging with another institution.<sup>26</sup>

New educational models like CBE have the potential to offer new solutions to these old problems. Innovative learning approaches that unbundle educational activities and leverage technology hold the promise of maintaining quality while reducing delivery costs.<sup>27</sup> These new types of programs currently enroll relatively few students, but experimenting with CBE or other new approaches may offer institutions a new way to address costs.<sup>28</sup> However, the vast majority of college students are expected to still enroll in traditional higher education institutions and programs, and working to effect change within current frameworks will have the greatest impact on the most students in the near future.

## Strategic Finance as a Solution

Strategic finance is an approach that encourages colleges to shift their thinking from spending and budget balancing to a “return on investment” approach. An ROI approach helps colleges allocate their resources to programs and initiatives in a way that maintains educational quality, improves student success, and also generates additional net revenue from behaviors associated with that success—including improved persistence, retention, and increased course taking.

This shift in thinking—from spending to ROI—is increasingly important in an environment of constrained resources and declining student enrollments. Preserving access and affordability with limited resources requires that colleges get a better return on investment from their existing resources. Allocating resources in a way that supports student success can generate ROI for both colleges and students.



The vast majority of college students are expected to still enroll in traditional higher education institutions and programs—working to effect change within current frameworks will have the greatest impact on students in the near future.

<sup>23</sup> Many of the more visible mergers have occurred in the public 2-year sector, including in Kentucky, Louisiana, Connecticut, although in Georgia both the 2- and 4-year sectors were affected.

<sup>24</sup> Azziz, Ricardo, Guilbert C. Hentschke, Bonita C. Jacobs, Lloyd A. Jacobs, and Haven Ladd. 2017. *Mergers in Higher Education: A proactive strategy to a better future?* New York, NY: TIAA Institute. <https://www.tiaainstitute.org/publication/mergers-higher-education>

<sup>25</sup> Bransberger, Pearce and Demaree K. Michelau. 2016. *Knocking at the College Door: Projections of High School Graduates*. Boulder, CO: Western Interstate Higher Education Commission (WICHE).

<sup>26</sup> Lederman and Jaschik, 2018.

<sup>27</sup> Desrochers, Donna M. and Richard L. Staisloff. 2017. *Competency-based Education: A Study of Four New Models and Their Implications for Bending the Higher Education Cost Curve*. Annapolis, MD: rpk GROUP. [http://rpkgroup.com/wp-content/uploads/2016/10/rpkgroup\\_cbe\\_business\\_model\\_report\\_20161018.pdf](http://rpkgroup.com/wp-content/uploads/2016/10/rpkgroup_cbe_business_model_report_20161018.pdf)

<sup>28</sup> Lurie, Howard. 2018. “The Enduring CBE Paradox: Insights from the 2018 National Survey of Postsecondary CBE” Austin, TX: Eduventures. <https://encoura.org/the-enduring-cbe-paradox-insights-from-the-2018-national-survey-of-postsecondary-cbe/>

## Shifting to an ROI Perspective

Strategically investing new and existing resources in ways that improve student success can generate financial returns for colleges. But how might the financial lens through which new initiatives are viewed shift from “What does it cost?” to a more useful understanding of “What do we get for the resources we spend?” This refocusing, from spending to return on investment, is critical to understanding and creating sustainable innovation.

**Transitioning to an ROI lens requires three fundamental shifts.**

1

**A holistic understanding of resources**

First, acknowledge that this is not only about dollars spent, but about people and how they spend their time. Our research shows that the most significant investment that any higher education institution makes is in its people—its faculty and staff. Yet, there often is a very poor understanding of how those people spend their time. ROI demands a better understanding of how faculty and staff spend their time, and how it translates into student success.

2

**A focus on unit cost**

Second, the focus on total cost alone must move to one of cost per unit, and how unit costs change over time. The best example of such a shift is considering cost per credential (degrees and certificates). Using this approach, an institution may elect to actually increase total spending on initiatives, while ultimately reducing the more important unit cost per credential.

3

**A connection between student success and financial sustainability**

The third component for applying an ROI lens is to tangibly connect student success and financial sustainability. As the various measures of student success—retention, progression, average student credit hour load, increase in credit completion—improve, so too may the net revenue earned by the institution. This increase in net revenue may be further enhanced by adopting student learning and advising systems that increase efficiency. The financial return on investment applies to students as well, translating their success into reduced tuition, quicker completion, and faster entry into the workforce.

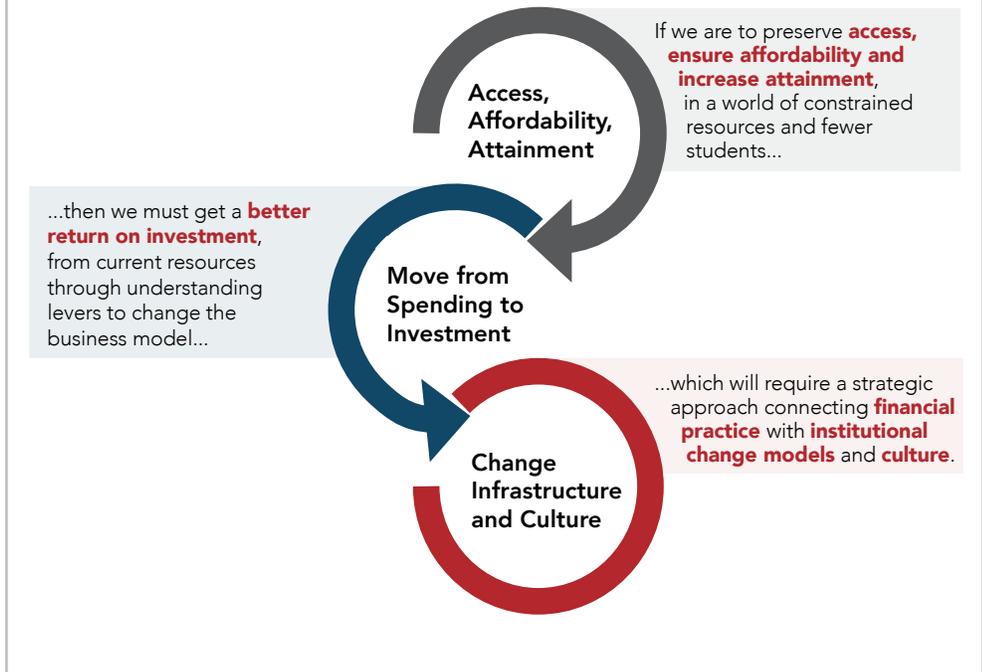
**>>> These three components—a holistic understanding of resources, a focus on unit cost, and a connection between student success and financial sustainability—form the core of an ROI lens.**

## The Importance of Culture and Leadership

Successfully shifting to an ROI approach also depends on changing institutional culture. While innovative strategies can succeed under a variety of conditions, widespread adoption and acceptance of new business models are more likely to flourish with clear communication from invested leadership.

Successfully implementing a new program, technology, or new business model is usually only the first step towards a more sustainable solution. Integrating these new activities or approaches onto a campus or state system in a deep-seated way requires a systemic change in thinking across the institution. It means cultivating an environment where the dots are connected between student success, financial returns, and program or initiative sustainability.

### Shifting the Frame from Cost Cutting to Maximizing Return on Investment



# IMPLEMENTING A STRATEGIC FINANCE STRATEGY

Colleges looking to adopt a strategic finance strategy should consider the following approach:

<p><b>Use ROI to Build Consensus for Change</b></p>	<p><b>Identify Metrics and Levers</b></p>	<p><b>Define and Capture ROI</b></p>
<p>Set and communicate expectations—and exit strategies when needed.</p>	<p>Select metrics that signal opportunities for improvement. Identify the levers that can affect change and the cost-effective tools and strategies that can move those levers.</p>	<p>Quantify the ROI for the institution (and students).</p>

Below, we offer case studies from three institutions engaged in this work—University of Central Missouri (UCM), Colorado State University (CSU), and Johnson County Community College (JCCC)—which provide examples of various strategic finance approaches across these three areas.

## Using ROI to Build Consensus for Change

Cultivating change across institutions requires more than just crunching numbers and analyzing results. Successful change management requires building consensus across the institution so everyone understands the goals, the approach, and most importantly, why they should buy in to the new approach that is proposed.

Our institutional cost partners used various approaches to generate ROI (see their case studies), but all incorporated communication strategies involving a variety of campus stakeholders and underscored the importance of a team effort and understanding. UCM's university-wide strategic change initiative required buy-in and support across academic and administrative units. CSU set and communicated official strategic goals and periodically reported on their success over nearly a decade. JCCC used results from the ROI analyses to correct misunderstandings about the financial margin of various programs.



## A strong vision and communication strategy are key elements in building consensus for change:

### Talk about ROI and connect it back to affordability:

To create engagement around ROI, it's important to consider ROI for students as well as the institution.

- » Student ROI typically includes metrics such as progression, fewer excess credits, reduced time to degree, or completion rates.
- » Institutional ROI should reflect cost savings, efficiencies, and increased revenue.

The good news is that many education-related investments can provide evidence of *both* types of ROI (e.g., an increase in student retention can ultimately produce more net tuition revenue for an institution). While institutional ROI can help sustain existing programs, it can also help achieve more explicit policy objectives around affordability—this “new” money should be reinvested to further improve student success and/or intentionally improve affordability.

- » *Is the college making clear how reductions in unit costs and net revenue generation connect back to the college's efforts to improve affordability?*

**Make connections across the institution:** ROI analysis creates an excellent intersection point between the work of the chief academic officer and the chief financial officer. For faculty, the commitment to student success can now be directly connected to the creation of more-sustainable financial models.

- » *Are the CAO and CFO coordinating on the financial realities of new and existing program offerings? Are they discussing the importance of maintaining mission-related academic programs that are not strong financial contributors to the college?*
- » *Has leadership explained to faculty how potential investment returns from various student success initiatives will be reinvested in other academic or student success priorities?*

**Develop communication strategies:** Shifting the conversation from spending to ROI encourages institutions to set some measurable targets. Ultimately, the goal is to create a story from the numbers, and the right metrics help deliver this narrative. Adopting and tracking key metrics such as the institution's “cost per completion” is instrumental in understanding if the college is becoming more efficient in its use of resources, especially when evaluated in concert with metrics on student outcomes.

- » *What key metrics will your college track to inform decision making and gauge the effectiveness of its changes in policies and investments?*
- » *What communication strategies will the college use to ensure that all stakeholders—from trustees to students—understand how new policies and investments are expected to impact student outcomes and affordability?*

**Drive toward sustainability:** While many institutions profess interest in innovation, few have taken the holistic view required to sustain it. The launch of a new initiative or method for allocating resources in and of itself is an achievement but is not how we define success. Instead, seek to answer the following:

- » *How are current activities and new projects being supported—to launch and maintain them over time? Can we project changes in student success that will impact funding?*
- » *How are unit costs changing—for example, the cost that leads to degree completion? Are students increasing their average credit hour load while reducing excess credits and their time to degree?*



## CASE STUDY: UNIVERSITY OF CENTRAL MISSOURI

# CREATING INFRASTRUCTURE FOR SUSTAINABLE STUDENT SUCCESS

Soon after his arrival on campus in 2010, Dr. Charles Ambrose, former president of the University of Central Missouri (UCM), embarked on what was to become the University's "Strategic Governance for Student Success" model – a comprehensive review of the institution's business model. This review would ultimately include

- 1) administrative cost reductions;
- 2) academic program review;
- 3) a strategic positioning platform;
- 4) new instructional delivery models, and
- 5) new institutional metrics.

The entire project focused on aligning UCM behind one goal – increasing student success.

The review was launched in response to the changing external environment, particularly the likelihood of continued reductions in appropriations from the State of Missouri, combined with the State's movement toward a performance-based funding model. In addition, Dr. Ambrose recognized that the business model of higher education didn't just need to be tweaked, but reinvented. "Our future depends upon an ongoing commitment to the success of our students, the ability to reshape our programs to meet tomorrow's needs, and the demonstrated value we provide to the State of Missouri."

UCM began the process with an **academic portfolio review**. This review ultimately resulted in a restructuring from five colleges down to four, and a reduction from 33 to 25 academic departments. These restructurings yielded base



budget savings of \$612,000 annually. Subsequent efforts have built on these successes to further streamline the academic structure, reducing academic departments down to 17.

Following up on the success of the academic portfolio review, the University launched a comprehensive **administrative cost and revenue enhancement review**. The project was structured as a Rapid Response Team model, under which a lead facilitators group coordinated the work of six teams working across all administrative service areas. Those teams successfully captured over \$2 million in immediate base budget savings, approximately \$500,000 in one-time savings, and an additional 50 proposals for revenue generation and cost savings in the out years.

The final component of the Strategic Governance Model included the creation of a new benchmark group for the University, as well as a set of **Key Performance Indicators (KPIs)** around the areas of access, college completion, affordability, and engagement. These KPIs link directly to the institution's strategic vision and the State's emerging performance-based funding initiative. KPIs include average institutional aid per FTE student; percent of students taking 15 student credit hours (SCH) a semester and completing 24 SCH their first year; excess credit hours; completions; and metrics examining post-graduation success.

The University continued its strategic infrastructure investment in 2014, with the creation of the

## CASE STUDY: UNIVERSITY OF CENTRAL MISSOURI

**Strategic Resources Allocation Model (SRAM).** The SRAM included the creation of a new model to ensure that resources would be linked to strategic initiatives and the support of institutional growth opportunities.

The KPIs, academic portfolio and administrative cost reviews, and resource allocation model all serve to inform UCM's decision making around resource allocation and reallocation. UCM also used the SRAM analysis to wean its academic departments off one-time/carry-forward funds to support the cost of ongoing operations.

### Results:

These academic and administrative cost savings, combined with initiatives to reduce energy consumption, refinance debt and capture personnel savings, yielded total savings at the University of \$7.8 million in only three years.

UCM's commitment to its framework has also produced demonstrated student affordability and success outcomes:

- » Students completing 30+ credit hours annually increased 12 percentage points in five years
- » Average hours to earn a bachelor's degree declined 2.6% since 2012
- » Tuition increases averaged less than 1.5% per year over 7 years
- » 23% reduction in student loans in four years
- » 30% increase (\$4.9m) in institutional scholarships since 2012
- » Incentivized completion with the creation of the 15-to-Finish scholarship.

UCM has continued to build upon the SRAM framework. It has new spending targets because of reductions in state support, and a state-imposed freeze on tuition rates required that they become more efficient.

### Resources:

- » UCM Strategic Governance <https://www.ucmo.edu/about/university-mission-and-vision/strategic-governance-model-for-student-success/index.php>
- » UCM Strategic Governance Model for Student Success <https://www.ucmo.edu/about/university-mission-and-vision/strategic-governance-model-for-student-success/strategic-governance-handout.pdf>
- » Kelderman, Eric. 2018. "Can Closing a Humanities College Save a University?" *The Chronicle of Higher Education* (April 13). <https://www.chronicle.com/article/Can-Closing-a-Humanities/243113>

## Key Takeaways for Other Institutions:

- » Comprehensive strategic governance and resource allocation models can create a powerful institutional infrastructure.
- » Business models can be developed to create alignment around mission, strategic goals, and student success.

## Metrics and Levers

In this era of increased attention to student outcomes, most colleges are monitoring a set of student performance metrics that include retention, persistence, and graduation—especially in states with performance-based funding systems that tie revenue to student success. It's less common for colleges to monitor granular data around costs and other metrics that signify potential cost drivers. These types of metrics help colleges to make better resource-allocation decisions and introduce greater efficiencies. And while these metrics provide a common launching point for inquiry and investigation, there are multiple strategies that colleges can employ to tailor its business model to meet its needs.

### AFFORDABILITY

- » Tuition and fees
- » Total cost of attendance
- » Net price
- » Financial aid: percentage receiving Pell, federal loans, & institutional grant aid
- » Institutional grant aid per FTE student
- » Tuition discount rate

### REVENUE, SPENDING & FINANCIAL STABILITY

- » Revenue and spending per FTE student
- » Tuition-financed share of spending
- » Compensation per FTE employee and share of total spending
- » Net income ratio
- » Return on net assets ratio

### EFFICIENCY & ROI

- » Faculty throughput (SCH per FTE Faculty)
- » Student-to-faculty ratio
- » Retention
- » Average SCH load
- » Net revenue from 1% change in retention or average SCH load
- » Cost of unproductive credit hours

### OUTCOMES

- » Spending per completion
- » Spending per SCH
- » Completions per \$100K of spending
- » Completions per 100 FTE
- » SCH per completion



Most colleges are monitoring a set of student performance metrics...it's less common for colleges to monitor granular data around costs and other metrics that signify potential cost drivers.

To support a strategic finance lens, key finance-related metrics are organized around four areas: 1) Affordability; 2) Revenue, Spending, and Financial Stability; 3) Efficiency and ROI, and 4) Outcomes. Metrics on revenue and spending patterns indicate sources of new revenue growth and help identify areas, activities, or policies that may be contributing to spending increases. Efficiency metrics help identify factors that are impacting costs. For example, are student-to-faculty ratios so low that they're increasing instructional costs? Or are declines in retention and student credit hour load leading to revenue losses?

Barometers of a college's financial stability can be assessed using traditional financial metrics such as net income ratios. However, financial outcome metrics can more clearly show what is produced for the money spent. For example, what's the spending per credit hour or per completion? And are the resource and policy decisions made by the college allowing it to produce more credentials at lower cost over time? And finally, how do all these actions come together to impact various measures of student affordability?

While our institutional partners in this work utilized different approaches to reduce costs, gain efficiencies, or generate new revenue, all examined and monitored a set of key metrics to guide their progress. UCM monitored metrics to help meet new spending targets related to a state-imposed freeze on tuition rates. CSU implemented a suite of student success initiatives that were all guided with an overarching focus on meeting two graduation rate goals. JCCC's activity-based costing model allowed them to monitor and track cost metrics down to the program.



## STRATEGIC FINANCE DASHBOARD

To provide an initial metrics framework for institutions, Lumina Foundation supported development of a strategic finance dashboard tool, created by rpk GROUP, to accompany this white paper (<http://rpkgroup.com/resources/>). The dashboard reflects the four metrics categories, and automatically produces an institution's data, a benchmark, and suggestions on how the data can be used. The tool further creates graphical outputs of the metrics, which can be used for communication to stakeholders. Finally, the tool supports the creation of an institution's own strategic finance metrics. Collectively, the components of the tool provide a dynamic, outcomes-focused approach to support an institution's implementation of the strategic finance framework.

## CASE STUDY: COLORADO STATE UNIVERSITY

# PLANNING FOR EXCELLENCE WITH STUDENT SUCCESS INITIATIVES

Colorado State University (CSU) is a Research-1 Land Grant University with an expressed commitment to improving the success of its undergraduate students, maintaining access, and meeting the educational needs of today's students. CSU enrolled 23,000 undergraduates in fall 2016: one of every four students is first-generation in college; one in four is a member of a race/ethnic minority group, and one in five receives a Pell grant.

In 2005, the University President and Provost challenged the University to substantially increase undergraduate student success. At that time, the University's first-year retention rate (82.5%) and graduation rate (five-year rate of 59.6%) were above the average rates for selective, public, doctoral-degree-granting institutions. Despite that comparative success, the University chose to focus on the nearly 18% of students who did not continue to their second year, the 20% who left in subsequent years without a degree,

and the 12-to-16 percentage-point graduation gaps for students who were first generation, low income, or part of a minority group.

In response to the 2005 challenge, the University developed the *Plan for Excellence: Enhancing Undergraduate Education and Student Success*, which had two goals:

**Goal 1:** Achieve a six-year graduation rate of 70% (from the base of 63.7%).

**Goal 2:** Eliminate the graduation rate gap between minority students and non-minority students, accounting for differences in prior preparation.

CSU implemented an array of student success initiatives (SSI) over the next 12 years. Throughout the implementation of these success metrics, they monitored momentum points to evaluate whether they were contributing to student success and, if not, whether they should be modified or abandoned.

Comprehensiveness	<b>Student Success Initiatives</b>	
	<b>Preparing the Pipeline and Assuring Access</b>	<b>Academic Initiatives: Curricular</b>
	Reach Out Programs Bridge Program Reconfigure Financial Aid and Workstudy	Experiential Learning First-Year Course Offerings Learning Community Infrastructure Structured First-Year Learning Community
	<b>Assuring Successful Transitions</b>	<b>Academic Initiatives: Academic Support</b>
	Transition Programs Increasing Retention Capacity of Student Diversity Programs and Services Web-Based Early Warning	Academic Support Coordinators Advising Capacity Early Identification and Intervention Initiatives Intervention with Students in Academic Difficulty Support for Nationally-Competitive Scholarships Learning Center (TILT) » Undergraduate Research » Learning Programs
	<b>Interventions with Specific Populations</b>	
	Students in the Life Sciences Undeclared Students	
	<b>Policies and Processes</b>	
	No original list; items emerged over time	

# CASE STUDY: COLORADO STATE UNIVERSITY

These initiatives were developed by seven committees, including more than 60 campus leaders from faculty, student affairs, academic administration, and the president's office. This approach was selected to create buy-in, as well as position knowledgeable advocates in strategically important locations across the campus.

The implementation of the entire array of SSI initiatives was completed in June 2017. The plan called for the next cohort entering after the plan completion date, that is, the cohort entering in fall 2017, to have a 70% graduation rate (Goal 1) and no graduation rate gaps when controlling for prior academic preparation (Goal 2).

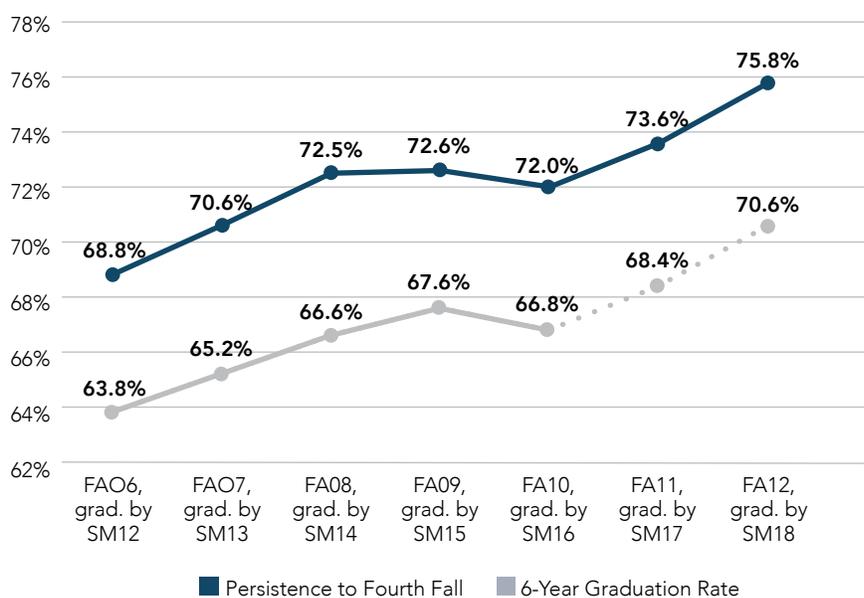
## Results:

Available evidence suggests that CSU will meet Goal 1 five years early (see Figure) and Goal 2 three years early. In addition to tracking student success under its SSI metrics, CSU has also carefully tracked initiative investment and return on that investment from net tuition and fees (less initiative cost). That return is estimated at \$30 million dollars since the Plan was launched in 2007–08.

Although the initial Plan initiatives were completed in 2017, CSU has continued to build on its success, setting new 4- and 6-year graduation rate goals, and focusing on eliminating graduation gaps entirely. In all, CSU has demonstrated the application of an ROI lens in creating sustainable innovation in support of student success.

## Persistence and Graduation Rates for Undergraduate Students

Persistence to Fourth Fall & 6-Year Graduation



**Sustainability of Initiative:** In its most recent Accreditation Report, the Higher Learning Commission concluded that CSU's Student Success Initiatives had become "a primary driver of campus improvement." How that happened speaks to sustainability.

- » **Leverage Effective Activities to Produce Lasting Change:** The most profound gains derived from pairing the development of effective programs with activities that promoted culture change.
- » **Maintain a Central and Coherent Narrative:** A narrative focused on student learning, the whole student experience, and equity was essential to connecting SSI to core institutional values.
- » **Keep Equity at the Forefront:** The success goals for "all students" and goals for "minority students" were

of equivalent stature and seen as mutually reinforcing. CSU was able to demonstrate that it had increased overall student success at the same time as dramatically diversifying the campus, thereby associating diversity, quality, and completion.

- » **Start with the Willing:** Begin with those most receptive to the initiative to build credibility, evidence, and momentum. Recognize that people's perspectives and interests differ. Build support for the common goal by appealing to the ways student success can serve the differing interests of faculty, student support personnel, administrators, and students.
- » **Commit to Delivery:** CSU's best efforts were those in which it didn't just "try harder," but rather

## CASE STUDY: COLORADO STATE UNIVERSITY

organized for and held leadership accountable to explicit outcomes and timelines.

- » **Disperse Responsibility:** The more student success efforts are seen as the responsibility of a single unit, the less other units will engage. Dispersed responsibility engenders greater investment, accountability, and shared credit for success. CSU chose not to create a vertical department of “retention,” but to share responsibilities and credit with units across the campus.
- » **Use Data:** The rich and productive use of data has been one of CSU’s most powerful tools. Using data to frame a “problem to be solved” provoked thought about constructive solutions rather than arguments about ideology.
- » **Claim Resources:** The commitment of new base funds in every single year, including those of exceptional fiscal constraint, signaled institutional priority as well as provided essential material support.

### Resources:

- » CSU Retention Working Group. 2006. *A Plan for Excellence: Enhancing Undergraduate Education and Student Success*. <https://provost.colostate.edu/media/sites/75/2015/08/PlanforExcellence.pdf>



## Key Takeaways for Other Institutions:

- » Increasing graduation rates and closing equity gaps are important goals that can support a college’s mission *and* its bottom line.
- » ROI doesn’t necessarily have to be initiative specific—it can reflect a collaborated institution-wide effort.
- » Alter student outcomes in the short term, but also integrate principles of student success into the fabric of the institution, affecting the ways institutional members make decisions and think about students.

## Define and Capture ROI

Many colleges are comfortable assessing and reporting on changes in student success, but often miss opportunities to quantify the financial impact of those changes. Determining ROI begins with capturing start-up and ongoing costs of a program or initiative, then estimating the net revenue that results. That net revenue reflects the additional tuition and/or state and local appropriations after the incremental cost to provide the additional education.

For student success initiatives, net revenue can be generated by retaining more students or increasing their course load. Strategies that support these goals take on increasing financial importance as the number of college-age students declines. For academic programs, net revenue can be generated by introducing efficiencies to reduce costs and/or increase program enrollment. Boosting completions rates for a particular course, for example, may reduce the number of sections the college needs to offer for that course next term, freeing faculty to teach other courses.

Each of our institutional partners adopted an ROI perspective for at least some of their operations. CSU was intently focused on ROI for their suite of student success initiatives. They maintained a detailed annual and cumulative accounting of their spending on various student success initiatives and the financial ROI. JCCC and UCM both paid increasing attention to the net margins on their academic programs, which guided their investments, and then continued with a deep dive into administrative services.



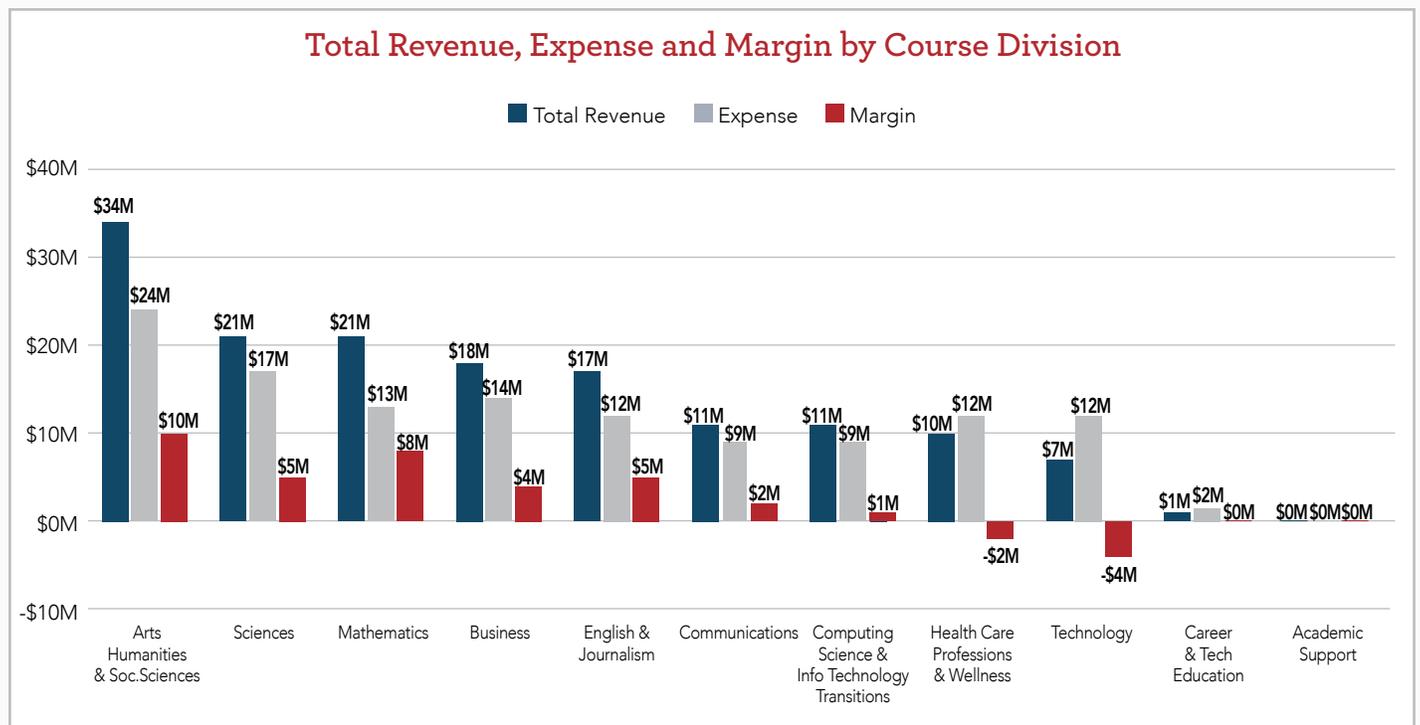
# CASE STUDY: JOHNSON COUNTY COMMUNITY COLLEGE UTILIZING ACTIVITY-BASED COSTING MODELS

Johnson County Community College (JCCC) had a change in presidential leadership in 2013, which brought a new emphasis on accountability and the use of cost data in decision making. Previously, the College had five years of relying on fund balance for operational expenses—a trend that institutional leadership determined was unsustainable.

The College implemented an activity-based costing (ABC) tool (from the Pilbara Group [www.pilbaragroup.com](http://www.pilbaragroup.com)) that allowed for better capture and reporting on the cost of academic and administrative services. Activity-based cost approaches attempt to break down personnel and operating expenditure into more granular components based on the functions provided. For example, “instruction” is broken down into course

development, teaching, tutoring, advising, assessment, and professional development. Breaking down cost to this level allows an institution to understand how faculty are spending their time, the cost of that time, and the return on investment.

In addition to the ABC approach, the College also developed fully allocated cost models that captured revenue and direct and indirect (overhead) costs at a program level. This analysis allowed institutional leadership to understand the net revenue generated by each academic program. A similar approach was taken to determine the cost of administrative service delivery at the institution, which was broken down into various functional categories



## Results:

The college recognized the following impacts:

1. **Academic Program Margin:** The analysis has fostered a greater awareness of the impact of section size on efficiency and net revenue. JCCC recognized they were offering some courses with very small sections sizes. They decided to no longer hire adjunct faculty to teach small sections and instead reallocated those resources to other activities.
2. **Academic Program Portfolio Mix:** The institution has begun making ROI-focused decisions around the portfolio. For example, the positive margin demonstrated for Career and Technical Programs (CTE) was used to overcome initial Board resistance to a space expansion plan for this program.
3. **Space Utilization:** JCCC leadership indicate that prior to their initiative, space was not considered a cost. The new model reflects the cost of space and examines space utilization to support better space allocation and investment decisions. While departments are not charged for space, their financial reports show these costs as a way of encouraging them to share space. At an institution level, this information has prompted more discussion about the cost of space and led to discussions about renovating spaces instead of constructing new buildings.

Despite the successes noted above, leadership indicates that “the solution was ultimately not the solution,” meaning that implementation of the ABC and cost model approaches is only beginning to impact institutional decision making. The college is working on getting data and meaning making down to a lower level of decision making. This outcome demonstrates the critical importance of connecting data and analysis to institutional change management approaches and culture. Without that holistic approach, the best data systems never make the leap to meaning making and institutional change.

Since activity-based costing has been piloted, the College has adopted a new strategic plan. High-level strategic priorities within the plan include Academic Excellence, Student Success, and Operational

Excellence. The results of JCCC’s activity-based costing reports are informing decisions regarding priorities under this strategic framework. Specifically, deans and department chairs use the reports generated from the activity-based costing tool as part of program review. These reports are informing decision making regarding curricular offerings, instructional delivery method, and class enrollment targets.

## Resources:

- » Johnson County Community College. 2016. *College Cost Management Model*. <http://www.jccc.edu/about/leadership-governance/administration/files/jccc-abc-whitepaper.pdf>

## Key Takeaways for Other Institutions:

- » Transparent information on costs can assist colleges in making decisions that improve efficiency and the allocation of resources.
- » Data itself is insufficient for cultural change—it is the first step in a long-term strategy to challenge institutional norms and change institutional practices.

# MOVING AHEAD: LEADERSHIP AND CHANGE MANAGEMENT ROADMAP

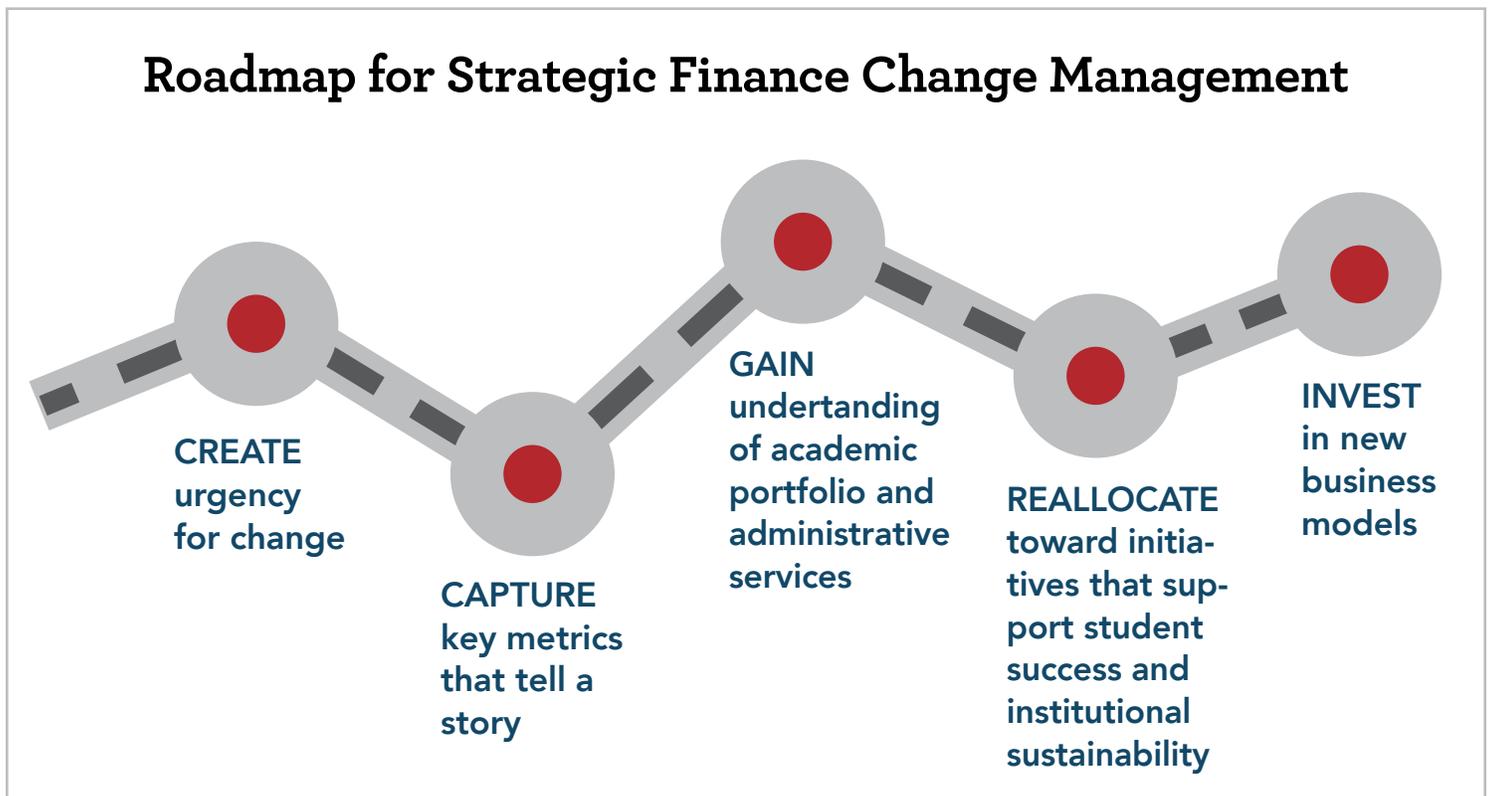
How might institutions begin the work to create a new business model? At the most basic level, institutions must create an awareness of the need for change, and expose the institutional community to new business models. This investment can produce the urgency necessary to begin the change process.

The second step is to enhance the use of data and metrics to determine the institution's current position, establish clear performance targets, and track the movement toward those targets. Ultimately, this step creates good storytelling, moving away from numbers and spreadsheets to capture and share the institution's pathway.

A third step allows the institution to examine its academic portfolio and administrative services to determine the best mission and margin mix of programs,

as well as restructure services to maintain quality of delivery at lower cost. Once the institution has clarity on where its economic engines are, it can develop new resource allocation models to ensure that resources are directed toward its strategic goals and these economic engines.

As a result of these steps, the institution should be in a position to optimize its current business model and prepare itself to move toward a new innovative model. This movement is supported by the harvesting of resources for reinvestment in innovation. That harvesting of resources includes not only dollars, but also people and time. In essence, the institution can now move resources from simply maintaining the current model and begin investing in its future.



# APPENDIX

## Starting a Strategic Finance Conversation Among College Leaders and Trustees

Institutional leadership often confronts a key question with the implementation of a strategic finance lens—“Where should we start”? This appendix builds upon the roadmap for strategic finance and includes guided questions for leadership to consider.

- » 1. **Create Urgency:** *Institutions must create an awareness of the need for change, and expose the institutional community to new business models. This investment can produce the urgency necessary to begin the change process.*
  - a. What changes do we see in the external landscape for higher education and the market served by this institution?
  - b. How well do the current institutional programs and services respond to that landscape and market? What specific examples can we point to that demonstrate an appropriate response?
  - c. Does the current business model appear to be sustainable in the long term?
- » 2. **Capture Key Metrics That Tell a Story:** *Use data and metrics to determine the institution’s current position, establish clear performance targets, and track the movement toward those targets. This step creates good storytelling, moving away from numbers and spreadsheets to capture and share the institution’s pathway.*
  - a. How might we define institutional success? Based on that definition, what metrics would help us understand where we are on the path toward that success?
  - b. What targets should be set for each metric?
  - c. How do those targets and the institutional data compare to benchmarks?
  - d. What’s the story that emerges from the data and how does that story impact decision making?
- » 3. **Gain an Understanding of Program and Services ROI:** *Examine the academic portfolio and administrative services to determine the best mission and margin mix of programs, as well as restructure services to maintain quality of delivery at lower cost. Once the institution has clarity on where its economic engines are, it can develop new resource allocation models to ensure that resources are directed toward its strategic goals and these economic engines.*
  - a. Is there a process in place to assess the ROI and efficiency of academic programs and administrative services?
  - b. What’s the financial margin generated by each academic program? How does that margin relate to institutional mission?
  - c. Which programs and services drive the majority of institutional net revenue?
- » 4. **Reallocate Toward Initiatives That Support Student Success and Institutional Sustainability:** *Optimize the current business model and prepare to move toward a new innovative model.*
  - a. Are resources (people, time, and money) being allocated toward institutional economic engines, and does resource allocation respect a mission, market, and margin-based approach?
- » 5. **Invest in New Business Models:** *Harvest existing resources for reinvestment in innovation. Move resources from simply maintaining the current model and begin investing in the future.*
  - a. What is the institution’s shared future vision?
  - b. How might resources be allocated to support initiatives that move us toward that future vision?

# rpk GROUP

**rpk GROUP is a leading consulting and advisory firm in education, supporting institutions and organizations with their growth strategies by focusing on mission, market and margin opportunities.**

We partner with clients throughout the U.S. and globally, including higher education, k-12, public and private sector institutions and systems, educational policy and governance organizations, and foundations. Our teams of experts have helped to launch new organizations, as well as revitalize traditional education institutions. Through this work, rpk GROUP has become a leading voice in the development of new, sustainable business models in education.

---

## **Connect with us**

[rpkgroup.com](http://rpkgroup.com) • [info@rpkgroup.com](mailto:info@rpkgroup.com) • 410-591-9018 • [3 Church Circle, Suite 164, Annapolis, MD 21401](#)

---